32731
S/140/61/000/004/002/013
C111/C222

16.4500

AUTHOR: Vasil'yev, V. V.

TITLE: On the solution of the Cauchy problem for a class of integro differential equations

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, no. 4, 1961, 8-24

TEXT: The author considers the integro differential equation

$$L[z(x)] + \lambda \int_a^b \sum_{\nu=0}^{m} K_\nu(x,y)\, z^{(\nu)}(y)\, dy = 0 \qquad (1)$$

where

$$L[z(x)] = \frac{d^n z(x)}{dx^n} + a_1(x) \frac{d^{n-1} z(x)}{dx^{n-1}} + \ldots + a_n(x) z(x)$$

the $a_k(x)$ are continuous on $a \leq x \leq b$; for $m < n$ the $K_\nu(x,y)$ satisfy all condition being usual for the kernels of linear integral equations but for $m = n+p$ they are $(p+1)$-times differentiable with respect to x.

Card 1/4

On the solution of the Cauchy . . .

The author uses essentially the results and notations of (Ref. 4: V. V. Vasil'yev, Resheniye zadachi Koshi dlya lineynykh integro-differentsial'nykh uravneniy [The solution of the Cauchy problem for linear integro differential equations] Tr. Irkutsk. gos. un-ta, no. 2, pp. 32-45, 1957). There it was stated that the Cauchy problem $z^{(s)}(x_0) = z_0^{(s)}$ (s=0,...,n-1) for (1) can be solved according to the formula

$$z(x) = \sum_{i=1}^{n} c_i z_i(x) + \int_{x_0}^{x} \frac{\Delta_1(\eta) z_1(x) + \ldots + \Delta_n(\eta) z_n(x)}{\Delta(\eta)} F(\eta)\, d\eta \quad (2)$$

where c_i are arbitrary constants, $z_i(x)$ are linearly independent solutions of $L[z(x)] = 0$, $\Delta(x)$ -- Wronsky determinant, $\Delta_k(x)$ -- its minors, and $F(x)$ satisfies an integral equation. In the present paper the author gives a complete system of fundamental solutions of this integral equation being free of arbitrary constants (in (Ref.4)

Card 2/4

the fundamental solutions contained arbitrary constants). Furthermore it is shown, that the application of the third Fredholm theorem is difficult for the solution of the above mentioned integral equation if the initial value x_0 is different from a or b. Finally the author considers the solution of the Cauchy problem for (1) in the case $m \geqslant n$. It is asserted that the condition

$$F(x_0) = F'(x_0) = \ldots = F^{(p)}(x_0) = 0 \qquad (18)$$

demanded in (Ref. 4) for the applicability of the method of A.J.Nekrasov is superfluous. Besides it is proved that the objection due to T. J. Vigranenko that (Ref. 2, V. V. Vasil'yev, Resheniye lineynykh obobshchennykh integro-differentsial'nykh uravneniy [The solution of linear generalized integro-differential equations], PMM, v.XV, no. 2, pp. 609-614, 1951) contains an error is not correct.

The author mentions V. J. Nikolenko and Ya. V. Bykov.
There are 9 Soviet-bloc references.

Card 3/4

32731
S/140/61/000/004/002/013
C111/C222

On the solution of the Cauchy ...

ASSOCIATION: Irkutskiy gosudarstvennyy universitet im. A. A. Zhdanova,
(Irkutsk State University im. A. A. Zhdanov)

SUBMITTED: March 16, 1959

Card 4/4

VASIL'YEV, V.V.

Stability of the operation of reversible linear converters connected to a complex linear d-c electric circuit. Mat. mod. i elek. tsepi no.1:33-36 '63. (MIRA 16:11)

VASIL'YEV, V.V.

Use of the method of determining unknowns in modeling three-dimensional free frames with reciprocally perpendicular rods. Mat. mod. i elek. tsepi no.1:79-86 '63. (MIRA 16:11)

VASIL'YKV, V.V. (Irkutsk)

A.I. Nekrasov's conditions for the theory of a certain class of linear integro-differential equations. Izv. vys. ucheb. zav.; mat. no.6:29-34 '63 (MIRA 17:8)

VASIL'YEV, V.V. [Vasyl'iev, V.V.] (Kiyev)

Elastic plastic state of a spherical shell having a hole with varying rigidity of the reinforcing ring. Prykl.mekh. 7 no.4:448-451 '61. (MIRA 14:9)

1. Institut mekhaniki AN USSR.
(Elastic plates and shells)

VASIL'YEV, V.V.

24 4200
10 7200

25110
S/198/61/007/003/005/013
D264/D303

AUTHOR: Vasyl'yev, V.V. (Kyyiv)

TITLE: The axi-symmetric elastic-plastic state of a shell of revolution

PERIODICAL: Prykladna mekhanika, v. 7, no. 3, 1961, 272 - 278

TEXT: The article deals with the approximation method of determining the deformed and stressed state beyond the elastic limit of a thin shell of revolution of constant thickness under the action of a static load which is symmetrical with respect to the axis of symmetry. A system of orthogonal curvilinear coordinates (α, β, y) are taken in the shell, as shown in Fig. 1. The relationships between the longitudinal deformations of the shell, $e_{\alpha\alpha}$, $e_{\beta\beta}$ and the components of total displacement u, w (the projection on the x and y axes of a moving system of Cartesian coordinates xyz) are taken from V. Z. Vlasov (Ref. 1: Obshchaya teoriya obolochek i yeye prilozheniya v tekhnike (General Theory of Shells and its Application in Techno-

Card 1/6

The axi-symmetric elastic- ...

logy) Gostekhnizdat, 1949). Taking the linear terms of $e_{\alpha\alpha}$, $e_{\beta\beta}$ and making use of the relationship between the longitudinal deformations ε_1, ε_2 the bending deformations, k_1, k_2, and the components of displacement, then

$$e_{\alpha\alpha} = \frac{1}{A}\left[u' + Ak_1 w - \frac{1}{\eta}(w'' - \overline{A}'w')\xi\right];$$

$$e_{\beta\beta} = \frac{1}{A}\left[\overline{B}'u + Ak_2 w - \frac{1}{\eta}\overline{B}'w'\xi\right].$$

where

$$\eta = \frac{A}{h},\quad \xi = \frac{\gamma}{h},\quad \overline{A}' = \frac{A'}{A},\quad \overline{B}' = \frac{B'}{B},\quad \overline{A}'' = \frac{A''}{A}\quad \overline{B}'' = \frac{B''}{B}\quad \text{etc.}$$

where A and B are the coefficients of the first quadratic form, k_1 and k_2 are the principal curvatures and h is the thickness of the

Card 2/6

The axi-symmetric elastic- ...

shell. Using the relationship between stress intensity σ_i and deformation intensity e_i, and using O.A. Il'yushyn's function ω_i, stress is obtained. For sufficiently large plastic deformation, the incompressibility condition $\nu = 0.5$ may be taken, but this is not satisfactory with small deformations. The expressions for meridional stresses in the shell (taking first-order terms) are also given. The differential equations of displacement are solved by means of the differential equations of equilibrium and the equations for the stresses. Grouping the terms in ω_i, these equations are of the form

$$m_{10}u + m_{11}u' + m_{12}u'' + n_{10}w + n_{11}w' + \Omega_u + A^4X/D = 0; \quad (2)$$

$$m_{20}u + m_{21}u' + n_{20}w + n_{21}w' + n_{22}w'' + n_{23}w''' - w^{IV} + \Omega_w + A^4Z/D = 0,$$

whose coefficients are subsequently given. The differential equations are transformed into finite difference equations

Card 3/6

The axi-symmetric elastic- ...

$$(2m_{10}\lambda^4 - 4m_{12}\lambda^2)u_k + (m_{11}\lambda^3 + 2m_{12}\lambda^2)u_{k+1} +$$
$$+ (-m_{11}\lambda^3 + 2m_{12}\lambda^2)u_{k-1} + 2n_{10}\lambda^4 w_k + n_{11}\lambda^3 w_{k+1} -$$
$$- n_{11}\lambda^3 w_{k-1} + 2A^4\lambda^4 X_k/D + 2\lambda^4 \Omega_{u,k} = 0;$$
$$2m_{20}\lambda^4 u_k + m_{21}\lambda^3 u_{k+1} - m_{21}\lambda^3 u_{k-1} + (2n_{20}\lambda^4 - 4n_{22}\lambda^2 - 12)w_k +$$
$$+ (n_{21}\lambda^3 + 2n_{22}\lambda^2 - 2n_{23}\lambda + 8)w_{k+1} + (-n_{21}\lambda^3 + 2n_{22}\lambda^2 + 2n_{23}\lambda + 8)w_{k-1} +$$
$$+ (n_{23}\lambda - 2)w_{k+2} + (-n_{23}\lambda - 2)w_{k-2} + 2A^4\lambda^4 Z_k/D + 2\lambda^4 \Omega_{w,k} = 0. \quad (4)$$

whose solution is facilitated by the fact that in the axi-symmetric case, the matrix of the system is reduced to a narrow strip around the principal diagonal. The solution of the equations is performed by successive approximations by O.A. Il'yushyn's method. [Abstractor's note: Method not given]. The article concludes by considering the special case of a spherical shell with a hole reinforced by a ring of rectangular cross-section. Here $\eta = 0.56$

Card 4/6

The axi-symmetric elastic- ...

(6) $\cdot 10^3$ $\rho/R = 0.1317$ where ρ is the radius of the hole, and R the radius of the shell. The ring and shell are made from a compound which has limit of proportionality σ_n = 1300 kg/cm^2; E = modulus of elasticity = 0.65 $\cdot 10^6$ kg/cm^2; ν = 0.3. There are 4 figures, 1 table and 5 Soviet-bloc references.

ASSOCIATION: Instytut mekhaniki AN URSR (Institute of Mechanics, AS UkrSSR)

SUBMITTED: December 22, 1960

Card 5/6

10.7000

S/198/62/008/002/004/011
D299/D301

AUTHOR: Vasil'yev, V.V. (Kyyiv)

TITLE: Design calculation, beyond the elastic limit, of a spherical shell with a connecting piece

PERIODICAL: Prykladna mekhanika, v. 8, no. 2, 1962, 144 - 147

TEXT: A numerical method is proposed for calculating the elastic-plastic state of a structure, consisting of a spherical and a cylindrical shell, connected by a toroidal part. The numerical method of elastic solutions is based on equations, given in the references. The hypotheses of the theory of small elastic-plastic deformations are adopted. The solution of the boundary-value problem reduces to integrating (by the method of finite differences) two differential equations in the displacements under given boundary conditions. It is assumed that the plastic deformations are of the same order of magnitude as the elastic ones. Simplifying assumptions are made, leading to considerably simplified basic equations. The structure is divided, by parallel lines, in such a way, so as to obtain a fundamental system of forces. Thereby, the design calculation redu-

Card 1/3

ces to calculating spherical, toroidal- and cylindrical shells under a surface load, and to calculating the horizontal stresses and moments which are determined from the conditions at the junction between the 3 shells. As the zeroth approximation, the elastic problem is solved. First, the spherical shell is calculated; then the conditions at the junction sphere-torus are satisfied. The cylindrical shell is calculated separately. The total strained state of the structure is obtained by superposition of the individual states. In passing to the elastic-plastic problem, the corrections to the difference equations are calculated for the plastic zone, with actual values of the internal pressure. By considering these corrections as fictitious loads, the basic structure-system is recalculated. The numerical results are listed in a table, viz.: The values of the stresses under the action of an internal pressure $p = 4.25$ kg/cm^2, calling forth membrane stresses in the spherical part of the structure. The largest stresses arise in the connecting sections of the toroidal part. The accuracy of the numerical solution for the sphere was determined by comparison of results. There are 3 figures, 1 table and 3 Soviet-bloc references.

Card 2/3

Design calculation, beyond the elastic.. S/198/62/008/002/004/011
D299/D301

ASSOCIATION: Institut mekhaniky AN URSR (Institute of Mechanics of the AS UkrRSR)

SUBMITTED: October 6, 1961

Jc.

Card 3/3

10,6200

S/258/62/002/001/008/013
I028/I228

AUTHOR: Yelpat'yevskiy, A. N. and Vasil'yev, V. V. (Moscow)

TITLE: On the calculation of prismatic shells in stresses

PERIODICAL: Inzhenernyy zhurnal, v. 2, no. 1, 1962, 117–129

TEXT: A variational method, based on Castellano's principle of the continuity of deformation, is developed for the calculation of thin momentless multiple connected prismatic shells. The longitudinal normal stresses are expanded in series by functions depending on the contour coordinates. The least work principle is used for the determination of the coefficients of the series. The potential energy of deformation is represented in the form

$$U = \int_L \phi dz$$

ϕ being a function of these coefficients. The differential equations expressing the conditions of minimum of the functional are determined, together with those expressing the natural boundary conditions. These equations are solved for the particular case of a simple prismatic shell. The solution obtained is identical with the solution obtained by other authors by different means, and has the advantage of being more substantiated physically. There are 5 figures.

INSTITUTION: Institut mekhaniki AN SSSR i MAI (Institute of Mechanics AS USSR and MAI)

SUBMITTED: April 27, 1961

Card 1/1

VASIL'YEV, V.V., inzh.

Engineering method for stress analysis in hollow chamfers of flat angle components. Vest.mashinostr. 42 no.11:35-38 N '62. (MIRA 15:11)
(Strains and stresses)

L 15633-63 BDS

ACCESSION NR: AP3000869 S/0286/63/000/002/0064/0064

AUTHOR: Bendik, P. I., Svecharnik, D. V., Remizov, L. K., Vasil'yev, V. V. 51

TITLE: Flow meter. [0] Class G 01f, 42e, 23 sub 01. No. 145023

SOURCE: Byul. izobreteniy i tovarnykh znakov, no. 2, 1963, 64

TOPIC TAGS: flow meter, selsyn indicator

ABSTRACT: Flow meter for liquids and gases; its distinguishing feature is that in order to increase the measurement accuracy, the operational reliability, and design simplicity, the sensitive element of the flow meter (impeller) is made in the form of the rotor of a selsyn transmitter of a contactless selsyn system. No graphics. [Abstractor's note: complete translation]

ASSOCIATION: none

SUBMITTED: 10Feb61 DATE ACQ: 28May63 ENCL: 00

SUB CODE: EE NO REF SOV: 000 OTHER: 000

Card 1/1

PUKHOV, Georgiy Yevgen'yevich; VASIL'YEV, Vsevolod Viktorovich; STEPANOV, Arkadiy Yevgen'yevich; TOKAREVA, Ol'ga Nikolayevna; IMAS, M.L., red.izd-va; RAKHLINA, N.P., tekhn. red.; REZNES, M.A., tekhn. red.

[Electric modeling of problems in structural mechanics] Elektricheskoe modelirovanie zadach stroitel'noi mekhaniki. [By] G.E.Pukhov i dr. Kiev, Izd-vo AN USSR, 1963. 285 p. (MIRA 17:3)

1. Chlen-korrespondent AN Ukr.SSR (for Pukhov).

VASIL'YEV, V.V. (Kiyev); CHERNYSHENKO, I.S. (Kiyev)

Elastoplastic state of a structure consisting of spherical and toroidal shells. Prikl. mekh. 1 no.4:34-38 '65. (MIRA 18:6)

1. Institut mekhaniki AN UkrSSR i Kiyevskiy avtomobil'no-dorozhnyy institut.

AUTHOR: Vasil'yev, V. V.

TITLE: Investigation of the edge effect in a cylindrical shell made of glass plastic

SOURCE: Inzhenernyy zhurnal, v. 5, no. 1, 1965, 143-154

TOPIC TAGS: glass plastic, cylindrical shell, edge effect, shell structure, stress analysis

ABSTRACT: The article deals with the axially symmetrical deformation of a cylindrical shell consisting of a large number of identical orthotropic layers of fiberglass plastic bound by a polymer mass and stressed under uniform internal pressure. It is assumed for simplicity that the material is homogeneous. A characteristic feature of such a construction is the appreciable difference between its rigidity under tension, which is determined by the fiberglass reinforcement, and the rigidity against the lateral strain of the layers, which is determined by the binder. This leads to the assumption that the stressed state of the shell is greatly influenced

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L 40753-65
ACCESSION NR: AP5006164

by the transverse shear, which is not taken into account by the classical theory. The stressed state is broken up into two components, the momentless stress and the [illegible] conditions of securing the edge of [illegible] effect is determined [illegible] with the classical theory based on [illegible] nas: 3 figures and 47 formulas.

ASSOCIATION: None

SUBMITTED: 27Feb64 ENCL: 00 SUB CODE: AS

NR REF SOV: 004 OTHER: 000

Card 2/2

L 40254-65 EWT(d) [illegible]

ACCESSION NR: AP5006163 S/0258/65/005/001/0129/0142

AUTHOR: Yelpat'yevskiy, A. N.; Vasil'yev, V. V.

TITLE: Investigation of the stressed state of a cylindrical shell wound of fiberglas material

SOURCE: Inzhenernyy zhurnal, v. 5, no. 1, 1965, 129-142

TOPIC TAGS: cylindrical shell, shell stress, stress analysis, shell deformation, fiberglas

ABSTRACT: The purpose of the paper was to estimate the role of the edge effect on the stressed and deformed state of a shell. The investigated shell is cylindrical and is produced by winding fiberglas thread or fiberglas ribbon symmetrically relative to the cylinder generatrix, so that the structure consists of a large number of layers of threads joined by a relatively less rigid binder. Since the fiber directions, which determine the elastic-symmetry axes, do not coincide with the principal directions of the cylindrical surface, the bearing layers are twisted relative to the shell axis under the influence of internal pressure. The torsion angle has in this case an opposite sign for symmetric layers which are wound in

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L 40754-65
ACCESSION NR: AP5006163

opposite directions, so that self-balancing tangential stresses are produced in the polymer binding layer. It is shown in the paper that the stressed state of such a shell can be broken up into two components, the momentless stress and the edge effect. The mutual shear of the layers is taken into account approximately in the investigation of the latter. The equation written out for the problem is solved in terms of stress, using the least-work principle, by the method of asymptotic integration in the form developed by A. L. Goldenveyzer (Teoriya uprugikh tonkikh obolochek 'Theory of elastic thin shells', Gostekhteoretizdat, 1953). Comparison with a solution based on the theory of straight normals shows that the latter overestimates the rigidity of the shell, since it does not take into account the effect of transverse shear. One of the results of the investigation is that if the deformed shell has optimal structure, the directions of the fibers coincide at all times with the trajectories of the maximal principal stresses. In all other cases, the stressed state depends noticeably on the rheological properties of the binder. The stability of the equilibrium position of the shell is analyzed. Orig. art. has: 3 figures and 62 formulas.

ASSOCIATION: None

Card 2/3

L 40754-65
ACCESSION NR: AP5006163

SUBMITTED: 30Oct63 ENCL: 00 SUB CODE: AS

NR REF SOV: 002 OTHER: 000

Card 3/3

L 50754-65
ACCESSION NR: AP5006163

SUBMITTED: 30Oct63 ENCL: 00 SUB CODE: AS

NR REF SOV: 002 OTHER: 000

Card 3/3

VASIL'YEV, V.V., inzh.

Elevator storage at the Vitebsk Oil Plant. Masl.-zhir. prom. 23 no.9:35-37 '57. (MIRA 10:12)

1.Giprozhir.

(Vitebsk--Oilseeds--Storage)

VASIL'YEV, V.V., inzh.

Mechanization of loading and unloading operations in margarine plants. Masl.-zhir.prom. 25 no.4:36-37 '59. (MIRA 12:6)

1. Gosudarstvennyy institut po proyektirovaniyu masloboynoy, zhirovoy, mylovarennoy, parfyumernoy i margarinovoy promyshlennosti.

(Oleomargarine) (Loading and unloading)

VASIL'YEV, V.V., inzh.

Section warehouse for margarine. Masl.-zhir.prom. 25 no.6:44-46 '59. (MIRA 12:8)

1.Gosudarstvennyy institut po proyektirovaniyu masloboynoy, zhirovoy, mylovarennoy, parfyumernoy i margarinovoy promyshlennosti.
(Oleomargarine--Storage)

S/081/62/000/022/006/088
B177/B186

AUTHORS: Vasil'yev, V. V., Rudenko, M. I.

TITLE: The effect of cations of heavy metals on the properties of fine-grained emulsions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 57-58, abstract 22B393 (Tr. Vses. n.-i. kinofotoin-ta, no. 43, 1961, 17-30)

TEXT: The effect was studied of Cd^{2+} ions, when introduced in the first maturing stage, on the photographic properties of fine-grained AgBr emulsion (E) with 2 mol% AgI. When Cd^{2+} is introduced, the volumetric concentration of Ag and the viscosity of the solution increases, and the swelling and the volume of E decrease, owing to the removal of gelatine from the solution by the cadmium. The Cd^{2+} ions in a proportion of 2 mol% to Ag ensure the minimum dimensions of the microcrystals, the maximum monodispersion and the greatest quantity of grains per unit volume. The reduction in the dimensions of the microcrystals is due to the formation of autocomplexes of $CdBr_3^-$, $CdBr_4^{2-}$ and $CdBr_6^{4-}$ which bind the

Card 1/2

The effect of cations of heavy ...

halogen ions and diminish the solubility of AgHal. Co-precipitation of Cd^{2+} and Ag^{+} is assumed to occur in the first maturing stage with the formation of mixed crystals of $CdBr_2$-AgBr, in which Cd^{2+} is uniformly distributed throughout the lattice, as confirmed by X-ray structural analysis. Optically sensitized E's with Cd^{2+} possess an anomalously high sensitivity, owing to the increased quantity of defects in the AgBr-Cd lattice. [Abstracter's note: Complete translation.]

Card 2/2

VASIL'YEV, V.V.; LYALIKOV, K.S.; PERFILOV, N.A.

Sensitivity of extra-fine grained P-9 emulsions to the visible spectrum and their optical sensitization. Zhur. nauch. i prikl. fot. i kin. 6 no. 3:227-229 My '61. (MIRA 14:5)

1. Leningradskiy institut kinoinzhenerov.
(Photographic emulsions)

VASIL'YEV, V.V.; RUDENKO, M.I.

Effect of cadmium cation on fine-grained emulsions. Zhur.VKHO 7 no.2:228-229 '62. (MIRA 15:4)

1. Shostinskiy filial Nauchno-issledovatel'skogo kino-fotoinstituta.
(Cadmium) (Photographic emulsions)

VASIL'YEV, V.V.

Effect of stirring on the properties of high-dispersion photographic layers. Zhur.nauch.i prikl.fot.i kin. 7 no.5:381-383 S-O '62. (MIRA 15:11)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, Shostka.

(Photographic emulsions)

VASIL'YEV, V.Ya., inzh.

Specialized workship for the manufacture of spring mattresses. (MIRA 18:6)
Der. prom. 14 no.2:19-21 F '65.

1. TSentral'noye konstruktorskoye byuro bumazhnoy i derevoobrabatyvayushchey promyshlennosti Soveta narodnogo khozyaystva Latviyskoy SSR.

L 34051-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/WW/JW/JG/RM SOURCE CODE: UR/0186/66/008/001/0033/0042

ACC NR: AP6025486

AUTHOR: Rykov, A. G.; Vasil'yev, V. Ya.; Yakovlev, G. N.

ORG: none

TITLE: Investigations of oxidation-reduction reactions of actinide elements. III. Kinetics of the reaction between uranium (IV) and bromate ions in perchlorate solutions

SOURCE: Radiokhimiya, v. 8, no. 1, 1966, 33-42

TOPIC TAGS: oxidation reduction reaction, chemical kinetics, uranium, bromate, anion, stoichiometry, reaction rate, hydrogen ion, ion concentration

ABSTRACT: The mechanism of the conversion of M^{4+} ions to MoO_2^+ or MoO_2^{2+} ions in the reaction with anion oxidants has not been well studied. The present study deals with the kinetics of oxidation-reduction reactions of ions of actinide elements with oxygen-containing anions. The experiments on the determination of the stoichiometry of the reaction were conducted at 25°C in 2 M $HClO_4$. The results showed that the stoichiometric coefficient of the reaction remains approximately constant within the limits of 2.1-2.3 with a change in the ratio of initial reagent concentrations $[U(IV)]_0/[BrO_3^-]_0$ from 2.5 to 5.5. Evidently, the principal reaction is

$$2U^{4+} + BrO_3^- + 2H_2O = 2UO_2^{2+} + BrO^- + 4H^+$$

UDC: 541.127+546.791.4

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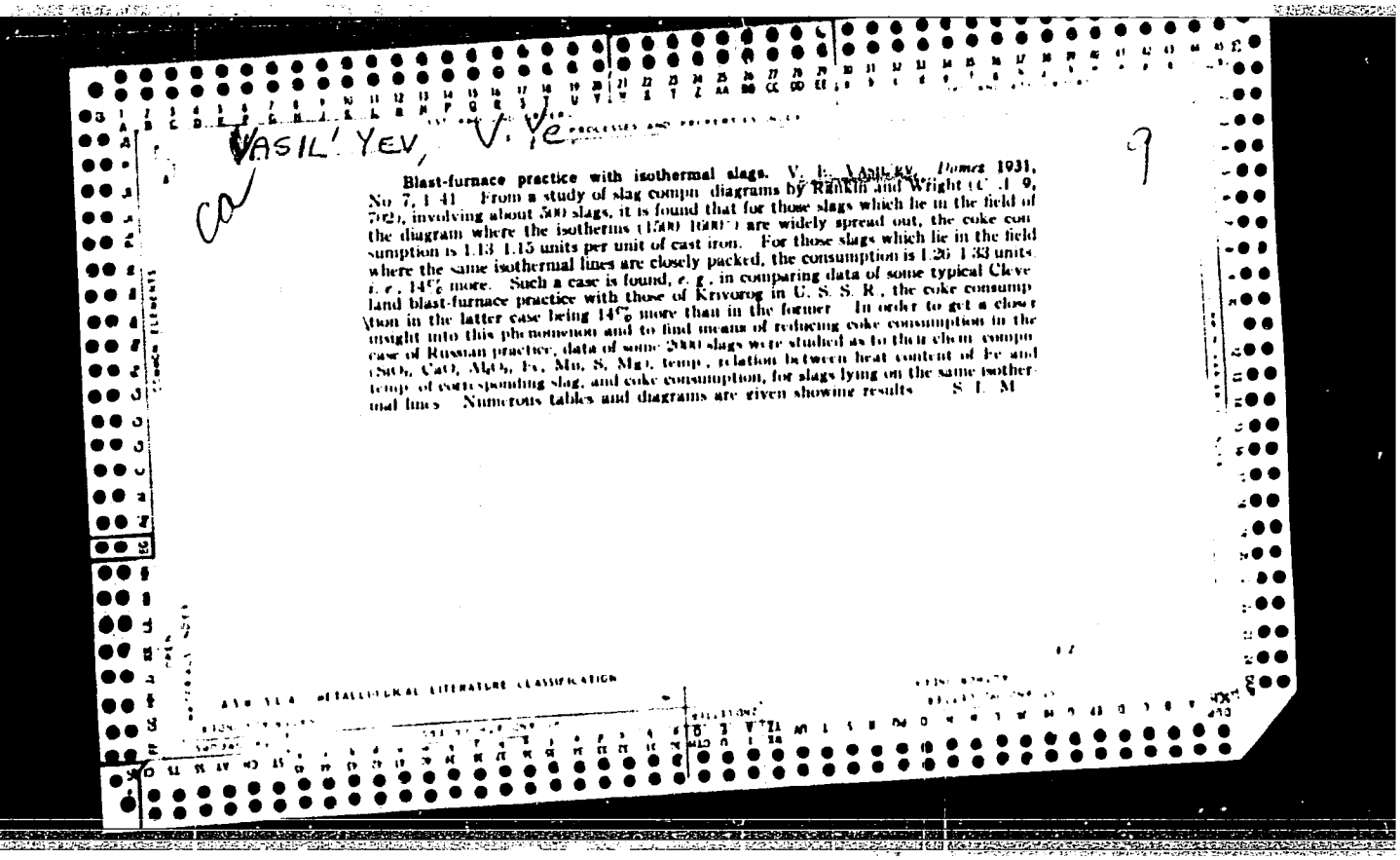
L 34051-66

ACC NR: AP6025486

accompanied by considerably slower oxidation of U(IV) by BrO^- ions. It has been shown that the reaction governing the rate of the overall process passes through two activated complexes formed under different equations. The reaction rate in the first route does not depend on concentration of hydrogen ions, and along the second — it is proportional to the square of the H^+ ion concentration. Thermodynamic values have been found characterizing the reactions of formation of each activated complex. The formal entropy values of these complexes have been calculated. Orig. art. has: 10 figures and 7 tables. [JPRS: 35,728]

SUB CODE: 07 / SUBM DATE: 23Nov64 / ORIG REF: 010 / OTH REF: 011

Card 2/2



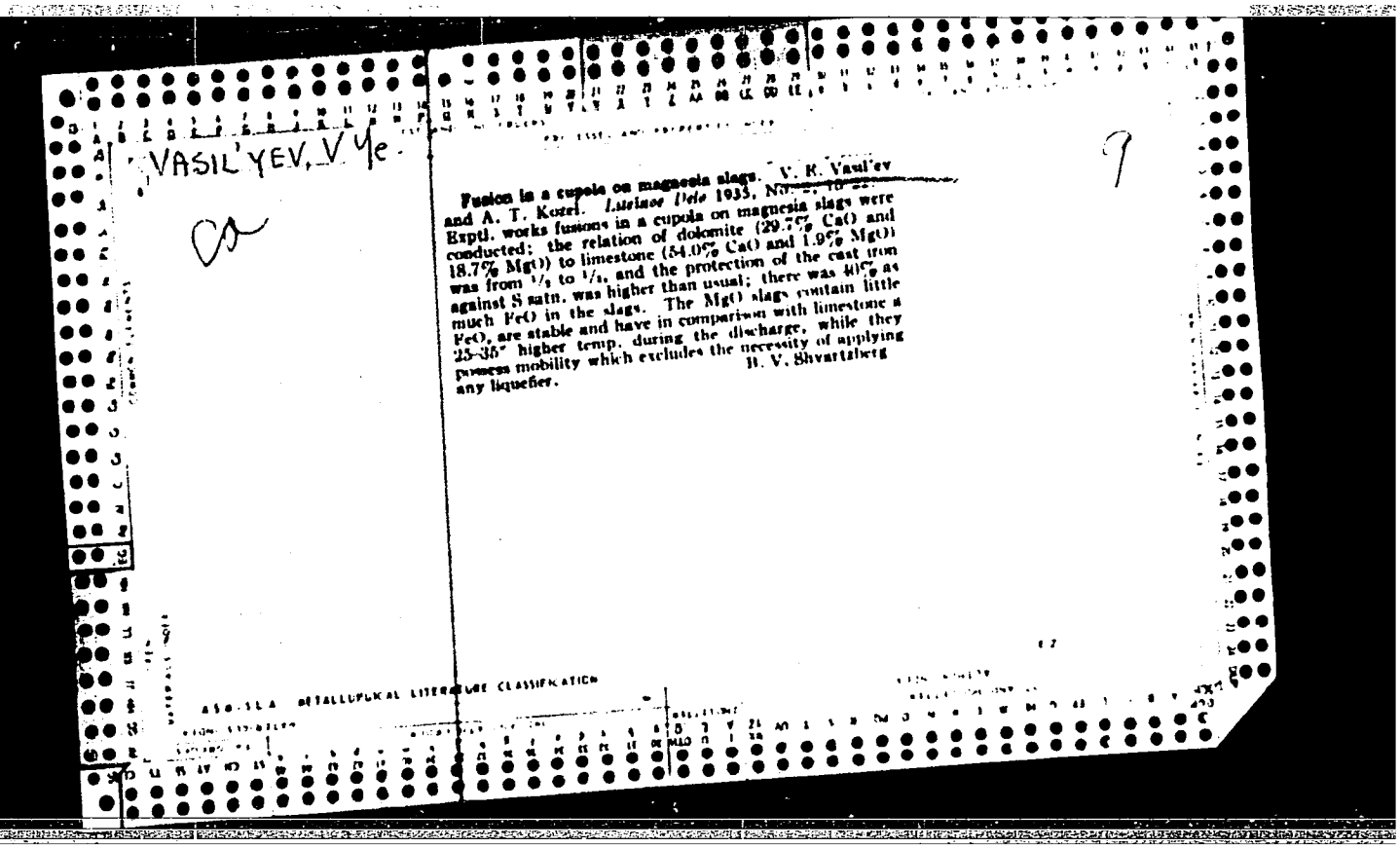
VASIL'YEV, V. Ye

9

Blast-furnace practice with isothermal slags. V. I. Vasil'ev. *Domez* 1931, No 7, 1-41. From a study of slag compn. diagrams by Rankin and Wright (C. A. 9, 702), involving about 500 slags, it is found that for those slags which lie in the field of the diagram where the isotherms (1500° 1600°) are widely spread out, the coke consumption is 1.13-1.15 units per unit of cast iron. For those slags which lie in the field where the same isothermal lines are closely packed, the consumption is 1.26-1.33 units, i. e., 14% more. Such a case is found, e. g., in comparing data of some typical Cleveland blast-furnace practice with those of Krivorog in U. S. S. R., the coke consumption in the latter case being 14% more than in the former. In order to get a closer insight into this phenomenon and to find means of reducing coke consumption in the case of Russian practice, data of some 2000 slags were studied as to their chem. compn. (SiO_2, CaO, Al_2O_3, Fe, Mn, S, Mg), temp., relation between heat content of Fe and temp. of corresponding slag, and coke consumption, for slags lying on the same isothermal lines. Numerous tables and diagrams are given showing results. S. I. M.

VASIL'EV, Vasiliy Yefimovich, 1893

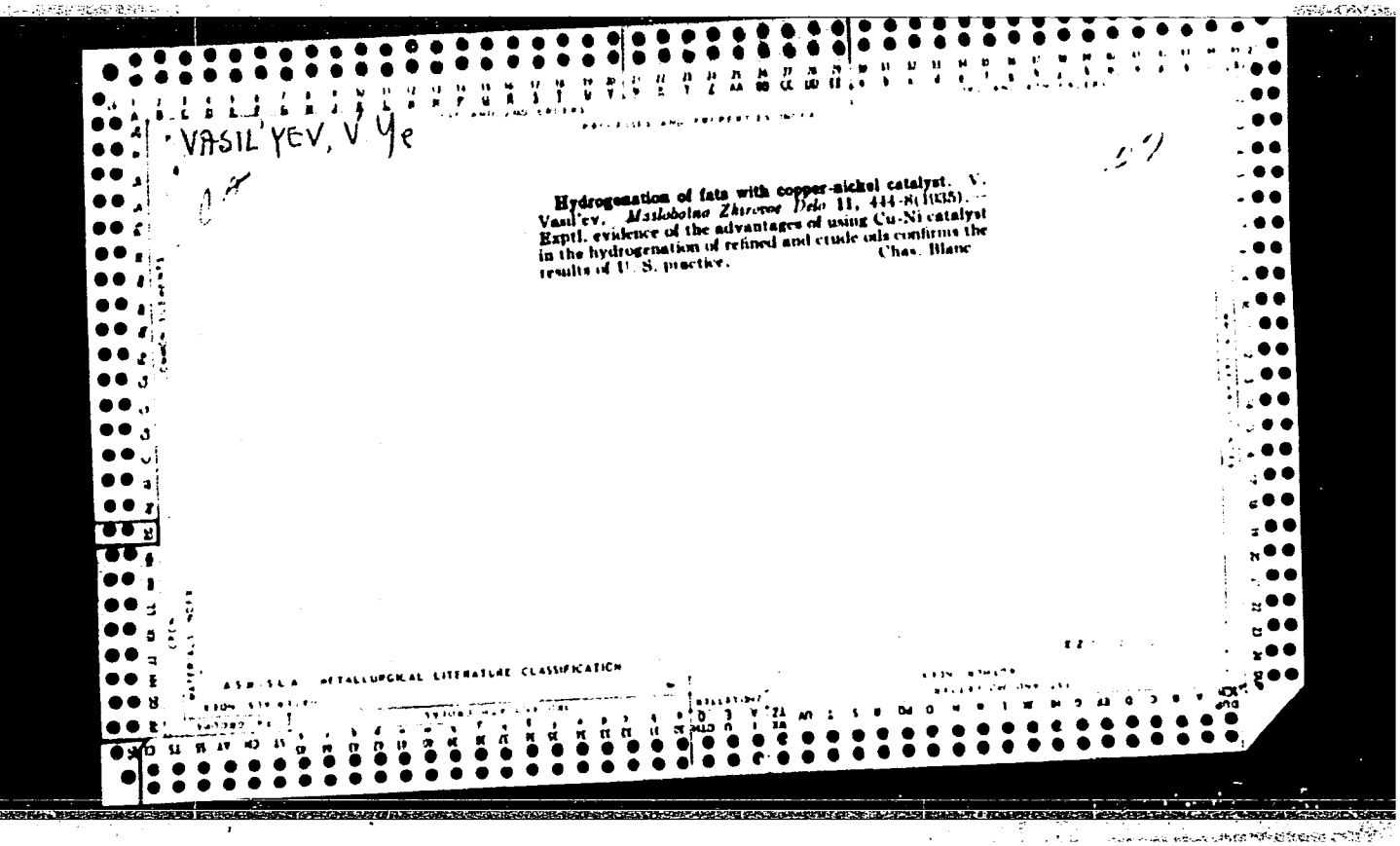
The fundamentals of blast furnace smelting utilizing basic slags Khar'kov gos. nauchno-tekhn. izd-vo Ukrainy, 1935. 143 p.



VASIL'YEV, V Ye

Fusion in a cupola on magnesia slags. V. K. Vasil'ev and A. T. Kozel. *Liteinoe Delo* 1933, No. [illegible]. Exptl. works fusions in a cupola on magnesia slags were conducted; the relation of dolomite (29.7% CaO and 18.7% MgO) to limestone (54.0% CaO and 1.9% MgO) was from 1/3 to 1/1, and the protection of the cast iron against S satn. was higher than usual; there was 40% as much FeO in the slags. The MgO slags contain little FeO, are stable and have in comparison with limestone a 25-35° higher temp. during the discharge, while they possess mobility which excludes the necessity of applying any liquefier. B. V. Shvartzberg

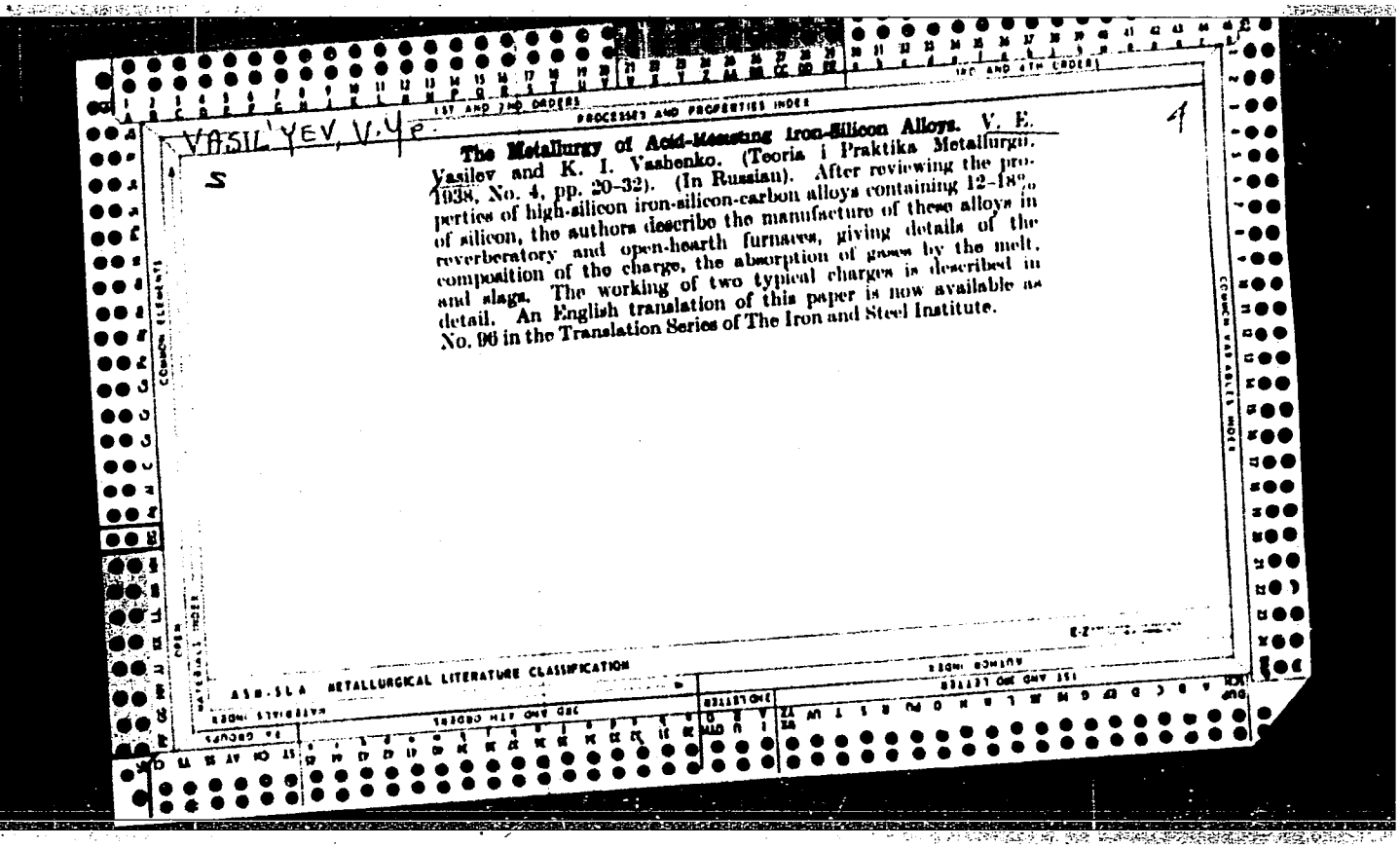
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



VASIL'YEV, V Ye

Hydrogenation of fats with copper-nickel catalyst. V. Vasil'ev. *Maslobolno Zhirovoe Delo* 11, 444-8(1935). Exptl. evidence of the advantages of using Cu-Ni catalyst in the hydrogenation of refined and crude oils confirms the results of U. S. practice. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



VASIL'YEV, V.Ye.

S

The Metallurgy of Acid-Resisting Iron-Silicon Alloys. V. E. Vasilev and K. I. Vashenko. (Teoria i Praktika Metallurgii, 1938, No. 4, pp. 20–32). (In Russian). After reviewing the properties of high-silicon iron-silicon-carbon alloys containing 12–18% of silicon, the authors describe the manufacture of these alloys in reverberatory and open-hearth furnaces, giving details of the composition of the charge, the absorption of gases by the melt, and slags. The working of two typical charges is described in detail. An English translation of this paper is now available as No. 96 in the Translation Series of The Iron and Steel Institute.

4

VASIL'YEV, V. YE.

35309. VASIL'YEV, V. YE. Domennaya plavka pri vysokom soderzhanii sery i shikhte. V SB: 50 Let Kievsk. Politekhn. In-Ta Diev, 1948, S. 81-131.--Bibliogr: 13 Nazv.

SO: Letopis' Zhurnal'nykh Statey Vol. 34, Moskva 1949

VASIL'YEV, V. Ye.

"Blast-Furnace Smelting With Stable Slags." Dr Tech Sci, Chair of Cast Iron Metallurgy and the Theory of Metallurgical Processes, Kiev Order of Lenin Polytechnical Inst, Min Higher Education USSR, Kiev, 1954. (KL, No 8, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

VASIL'YEV, V. YE., DENISENKO, V.O., AND PONOMAREVA, L. A.

Solution of Crystals

Blue vitriol and succinic acid crystals were investigated. The grown crystals were dissolved in ethanol of various concentrations. The speed of solution does not exhibit proportionality to volume, surface, nor linear crystalline dimensions. An increase of specific weight up to 20% could be observed. (RZhFiz, No. 8, 1955) Izv. Kievsk. Politekhn. in-ta. 14, 1954, 183-195.

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

VASIL'YEV, V.Ye.; SAMOKHVALOV, Ya., vedushchiy redaktor; GOLOVCHENKO, G., tekhnicheskiy redaktor

[Blast furnace smelting with stable slags] Domennaia plavka na ustoichivykh shlakakh. Kiev, Gos. izd-vo tekhn.lit-ry USSR, 1956. 259 p. (MLRA 10:1)
(Blast furnaces)

VASIL'YEV, V.Ye.

V.P. Izhevs'kyi and his role in the development of Ukrainian metallurgy. Nar. z ist. tekh. no.3:46-52 '56. (MLRA 10:6)
(Izhevs'kii, V.P., 1863-)

VASIL'YEV, Valeriy Andreyevich; PAVLOVSKAYA, N.I., red.

[Handbook on safety measures for workers engaged in the assembly of pipes and industrial equipment in operating metallurgical plants] Pamiatka po tekhnike bezopasnosti dlia rabochikh po montazhu truboprovodov i tekhnologicheskogo oborudovaniia v deistvuiushchikh tsekhakh metallurgicheskoi promyshlennosti. Moskva, Stroiizdat, 1964. 32 p. (MIRA 17:6)

BESSARABOV, Gennadiy Vasil'yevich, starshiy prepodavatel'; VASIL'YEV, Vladimir Ivanovich, assistent

Analysis of a ferrite-transistor single-stroke distributor. Izv. vys. ucheb. zav.; elektromekh. 6 no.11:1229-1234 '63. (MIRA 17:4)

1. Kafedra avtomatiki i telemekhaniki Taganrogskogo radiotekhnicheskogo instituta.

Name: VASIL'YEV, Vasiliy Yofimovich

Dissertation: Blast furnace smelting on stable slags

Degree: Doc Tech Sci

Affiliation: [not indicated]

Defense Date, Place: 28 Mar 56, Council of Kiev Order of Lenin Polytech Inst

Certification Date: 23 Jun 56

Source: BMVO 5/57

JPRS 824

17 Oct. 58, Unc.

SOV/137-57-11-21046

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 61 (USSR)

AUTHOR: Vasil'yev, V.Ye.

TITLE: The Smelting of Pig Iron to Produce Slags Suitable for Cement Manufacture (Vyplavka chuguna na shlakakh, prigodnykh dlya proizvodstva tsementa)

PERIODICAL: V sb.: Domennyye shlaki v str-ve. Kiyev, Gosstroyizdat UkrSSR, 1956, pp 40-50

ABSTRACT: Blast-furnace slags are the cheapest source of binder materials. However, utilization of the slags resulting from the melting of open-hearth pig iron is hindered by the high manganous oxide contents (5-9%). It is proposed to convert the blast furnaces of the south to operation with stable low manganiferous (2% MnO) and magnesia (7% MgO) slags. When these types of slags are made, the furnaces are run just as intensely as before, but it becomes possible to utilize all the resultant slag in the cement industry. The results of industrial tests run at the Nr-4 blast furnace of the Azovstal' Plant in July 1950 are adduced. They show that conversion to stable magnesia slags results in a sharp improvement in furnace-

Card 1/2

The Smelting of Pig Iron to Produce Slags Suitable for Cement Manufacture

performance indices. The coefficient of Mn distribution dropped from 2.04 to 0.72. At the same time, the corresponding coefficient of sulfur distribution increased from 24.6 to 37%. The consumption of manganese ore dropped from 0.325 to 0.176 kg/kg pig iron. The MgO contents of the slags came to 6.58% (instead of the customary 1.46%), and that of MnO was 2% (instead of 5.49%). It should be noted that stable magnesia slags make for an improvement in furnace operation and make it possible to raise the blast temperature to over 800°C without any technological complications. The results of experiments demonstrating the high qualities of lime-slag cement made from a mixture of low-manganese magnesia blast-furnace slags, with 5-10% added lime, are shown.

Ye.V.

VASIL'YEV, V.Yu., inzh.

Automation of the assembling and painting of single-unit car bodies. Mekh.i avtom.proizv. 14 no.9:51-53 S '60. (MIRA 13:9)

(United States--Automobiles--Bodies) (Automation)

VASIL'YEV, V.Yu; BARZILOVICH, V.S.

Surface energy and process of cast iron inoculation. Nauch.trudy Inst.mash. i sel'khoz.mekh. AN URSR 4:34-50 '54. (MIRA 9:9)
(Cast iron)

VASIL'YEV, Vitaliy Zakharovich; GEORGIYEVSKIY, Nikolay Nikolayevich [deceased]; DUBYAGO, Andrey Dimitriyevich [deceased]; KOKHTEV, Andrey Aleksandrovich; TAUROK, Viktor Grigor'yevich [deceased]; TSATSKIN, Vitaliy Semenovich; SHAPOSHNIKOV, Kirill Aleksandrovich; MUSINYAN, T.M., inzh., red.; TAIROVA, A.L., red.izd-va; TIKHANOV, A.Ya., tekhn.red.

[Reference tables for machine parts] Spravochnye tablitsy po detaliam mashin. Izd.4, ispr. i dop. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry. Pt.1. 1960. 615 p. (MIRA 14:1)

(Machinery--Standards)

VASIL'YEV, V.Z.[deceased]; KOKINTEV, A.A.; TSATSKIN, V.S.; SHAPOSHNIKOV, K.A.; MUSINYAN, T.M., inzh., red.

[Reference tables on machine parts in 2 volumes] Spravochnye tablitsy po detaliam mashin v 2-kh tomakh. Moskava, Mashinostroenie. Vol.1. 1965. 716 p. (MIRA 18:8)

VASIL'YEV, Vitaliy Zakharovich; GEORGIYEVSKIY, Nikolay Nikolayevich [deceased]; DUBYAGO, Andrey Dmitriyevich [deceased]; KOKHTEV, Andrey Aleksandrovich; TAUROK, Viktor Grigor'yevich [deceased]; TSATSKIN, Vitaliy Semenovich; SHAPOSHNIKOV, Kirill Aleksandrovich; MUSINYAN, T.M., inzh., red.; TAIROVA, A.L., red.izd-va; TIKHANOV, A.Ya., tekhn.red.

[Reference tables for machine parts] Spravochnye tablitsy po detaliam mashin. Izd.4., ispr. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry. Pt.2. 1961. 688 p. (MIRA 14:4)

(Machinery--Tables, calculations, etc.)

VASIL'YEV, V. Z.

Technology

Machine parts, Spravochnik, Moskva, Mashgiz, 1951.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

*
Vasil'yev, V. Z. i dr.

Spravochnyye tablitsy po detalyam mashin
[Reference tables for machine parts, by]
V. Z. Vasil'yev [i dr.] Moskva, Mashgiz, 19

v. diagrs., tables.
Lib. has: 1955, pt. 2
1958 (3. izd) (2v. in I)

VASIL'YEV, V.Z.; GEORGIYEVSKIY, N.N.; DUBYAGO, A.D.: TAUROK, V.G.; TSATSKIN, V.S.; SHAPOSHNIKOV, K.A.; DZHAVADYAN, G.A., redaktor; SOKOLOVA, T.F. tekhnicheskiy redaktor.

[Reference tables for machine parts] Spravochnye tablitsy po detaliam mashin. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Pt. 2. 1955. 239 p. (MLRA 8:9)
(Mechanical engineering--Tables, calculations, etc)

VASIL'YEV, Ya

VASIL'YEV, Ya., inzhener.

Measures to improve the operation of grain dryers in mills. Muk.-elev.prom. 21 no.2:27-28 F '55. (MLRA 8:3)

1. Kuybyshevskiy trest Glavmuki.
(Grain drying) (Drying apparatus)

VASIL'YEV, Ya.

Connecting grain drying and cleaning towers with flour mills. Mnk. (MIRA 10:1)
-elev.prom.22 no.11:26 N '56.

1. Kuybyshevskiy trest Glavmuki.
(Grain elevators) (Conveying machinery)

VASIL'YEV, Ya., inzhener.

Shortcomings in the construction of the ZM roller mill. Muk.-elev.prom. 22 no.7:32 Jl '56. (MLRA 9:9)

1.Kuybyshevskiy trest Glavmuki.
(Grain-milling machinery)

VDOVENKO, V.M.; VASIL'YEV, Ya.V.; DUBASOV, Yu.V.

Magnetic susceptibility of radium chloride and radium bromide.
Dokl. AN SSSR 159 no.3:536-538 N '64 (MIRA 18:1)

1. Chlen-korrespondent AN SSSR (for Vdovenko).

S/076/62/036/004/011/012
B101/B110

11.5100

AUTHORS: Vasil'yev, Ya. V., and Soboleva, M. S.

TITLE: Calorimeter for determining the heat of high-temperature processes (Methods for exact determination of the electric current power)

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 4, 1962, 907-910

TEXT: This study was conducted according to a proposal by S. M. Ariya. A calorimeter with d.c. heated furnace is described. Measurement of the power is based on the use of Ф-117/11 (F-117/11) photoelectric amplifier which controls a semiconductor triode. The voltage of the heating current is stabilized, deviation of the amperage as a function of time is recorded. The power is calculated from $A = I_{mean} U_{stab} t$. I_{mean} is determined by graphic integration. The most essential parameters of the device are: stabilization coefficient 4000, output voltage 4-8 v lower than input voltage, maximum current 12 a, stabilization time 0.04 sec. With a nichrome heater, the error amounts to ± 0.03% in the first 15 to 20 sec.

Card 1/2

Calorimeter for determining the ...

The power is measured with an accuracy of ± 0.02%. A variant provides for the maintenance of the amperage by means of photoelectric amplifier and semiconductor triode, the current stabilizer being connected to the voltage stabilizer. For filaments made of Pt or W, which have a higher resistance coefficient above room temperature, series connection of the measurement calorimeter with a second calorimeter, the filament of which is of the same material, is recommended. In this second calorimeter, the ratio of the amperages of the two calorimeters is stabilized with an accuracy of 0.01% by means of a semiconductor triode. S. G. Rabinovich is thanked for discussions. There are 2 figures and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: July 25, 1961

X

VASIL'YEV,Ya.V.; URBAN,I.V.; SAFONOVA,L.I.

Improvement of insulation board driers. Bum.prom.30 no.7:19-21 Jl'55. (MLRA 8:10)

1. Sukhonskiy tsellyulozno-bumazhnyy kombinat.
(Paperboard)

AUTHORS: Vdovenko, V. M. (Corresponding member AN SSSR); Vasil'yev, Ya. V.; Dubasov, Yu. V.

TITLE: Magnetic susceptibility of radium chloride and boride

SOURCE: AN SSSR. Doklady*, v. 154, no. 3, 1964, 535-538

TOPIC TAGS: radium compound, paramagnetism, diamagnetism, para-

ABSTRACT: The purpose of the investigation was to check on the hitherto undisputed conclusions of P. Curie and C. Cheenveau (J. Phys. v. 2, 796, 1903) that radium boride and chloride are weakly paramagnetic. Since radium is not a transition element, its salts should not exhibit paramagnetism and a magnetochemical investigation of such compounds would [illegible] bond of such compounds. The susceptibility of highly purified

Card 1/3

about 0.5×10^{-6} ; was used to measure the force acting on the am-

± 4 and -112 ± 4 [illegible]. It is therefore concluded that the samples originally measured by Curie and Cheenveau were contaminated, and those salts are actually diamagnetic. The measured susceptibilities are in good agreement with those calculated by the Ashwood formula. [illegible]

Card 2/3

ACCESSION NR: AP4049916

ASSOCIATION: None

SUBMITTED: 07Jul64 ENCL: 00

SUB CODE: GP, GC NR REF SOV: 005 OTHER: 006

Card 3/3

L 53964-65 EWT(1)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD UR/0363/65/001/003/0347/0353

ACCESSION NR: AP5011930

15
14
B

AUTHOR: Vasil'yev, Ya. V.; Ariya, S. M.

TITLE: Magnetic susceptibility of higher oxides of titanium 27 7

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 3, 1965, 347-353

TOPIC TAGS: titanium oxide, magnetic susceptibility

21

ABSTRACT: Magnetic susceptibility [illegible] was studied as a function of temperature for several titanium oxides ranging from [illegible] $_{1.464}$ to $TiO_{1.874}$. The oxides $TiO_{1.464}$, $TiO_{1.512}$, and $TiO_{1.640}$ were prepared [illegible] fusing mixtures of titanium iodide with titanium [illegible] for 4 hours [illegible] and under high vacuum. [illegible] oxides ranging from [illegible] vari- ous [illegible] Magnetic susceptibility [illegible] temperature range [illegible] (which [illegible] and [illegible] very sharply at [illegible] increases in [illegible] $_x$ where x is 1.464, [illegible] 1.640, 1.6[illegible] and [illegible] attributed to the presence [illegible] phase in these oxides. A small jump [illegible] observed for [illegible] is ascribed [illegible] impurity [illegible] samples of $TiO_{1.7}$[illegible], and $TiO_{1.}$[illegible] [illegible] jump [illegible]

Card 1/2

L 53964-65
ACCESSION NR: [illegible]

$TiO_{1.760}$ at 130°C is ascribed to the presence of $TiO_{1.80}$ impurity. Correlation between χ and temperature for titanium oxides ranging from $TiO_{1.760}$ to Ti[illegible] verifies the phase diagram of [illegible] (S. Andersson, et. al., [illegible] figures.

ASSOCIATION: Khemicheskiy fakul'tet Leningradskogo gosudarstvennogo universiteta (Department of Chemistry, Leningrad State University)

SUBMITTED: 20Jul64 ENCL: 00 SUB CODE: EM, MT

NO REF SOV: 004 OTHER: 015

Card 2/2

24.7900

38911
S/181/62/004/006/017/051
B125/B104

AUTHORS: Antuf'yev, V. V. (Deceased), Yasil'yev, Ya. V., Votinov, M. P., Kharitonova, O. K., and Kharitonov, Ye. V.

TITLE: Electron paramagnetic resonance in a titanium-oxygen system

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1496-1499

TEXT: The state of trivalent titanium in the oxides $TiO_{1.5}$-TiO_2 is investigated. The epr signal from Ti^{+3} can be observed in TiO_x powder at temperatures of from -70 to -100°C if $2.0 \geq x \geq 1.51$. The line width increases from 45-80 oe to 200-400 oe as temperature is raised from 77°K to 200-230°K, but the position of the lines does not change. The spin-lattice relaxation time τ_1 as determined from the width of the experimental absorption curve of Ti^{+3} is approximately $5 \cdot 10^{-9}$ sec at 77°K. τ_1 depends on temperature approximately as T^{-n} where $n \simeq 1$-2. The epr signal intensity and the static magnetic susceptibility χ_0 likewise depend on the composition of the TiO_x system. In the initial section of the intensity curve, intensity

Card 1/3

Electron paramagnetic resonance...

$(h_2+h_1)/h_o$ increases owing to the increasing concentration of Ti^{+3} in the rutile-type lattice, where h_1 and h_2 are the moduli of the signal maximum and signal minimum and h_o is the sum of the moduli. The peak on the intensity curve at $x \approx 1.93$ is due presumably to the formation of one or more compounds of the homologous Anderson series Ti_nO_{2n-1}. Around $x \approx 1.8$, the g-factor changes considerably and the magnetically non-equivalent positions of Ti^{+3} pass over into equivalent positions. This region corresponds to the anomalies of the isotherms of static magnetic susceptibility. In the β-phase of the TiO_x system, the Ti^{+3} ions are ambient to low-symmetry neighborhood. At a low concentration, spin-spin interaction in the TiO_x system is of minor importance. Intensity and asymmetry of the signal decrease linearly to zero in the range of γ-phase. The g-factor of the epr signal in the β- and γ-phases changes from 1.949 to 1.963. Absorption in T-80 (T-80) ceramic ($g = 1.93$ and $g = 1.97$) at liquid nitrogen temperature is caused by Ti^{+3} in various crystalline

Card 2/3

Electron paramagnetic resonance....

surroundings. The physical and chemical processes in polycrystalline dielectrics containing less than 87 % titanium oxides change the intensities of the epr spectra by about one order of magnitude. There are 1 figure and 1 table. The most important English-language reference is: P. Chester. Bull. Amer. Phys. Soc., 5, 73, 1960.

SUBMITTED: January 22, 1962

f

Card 3/3

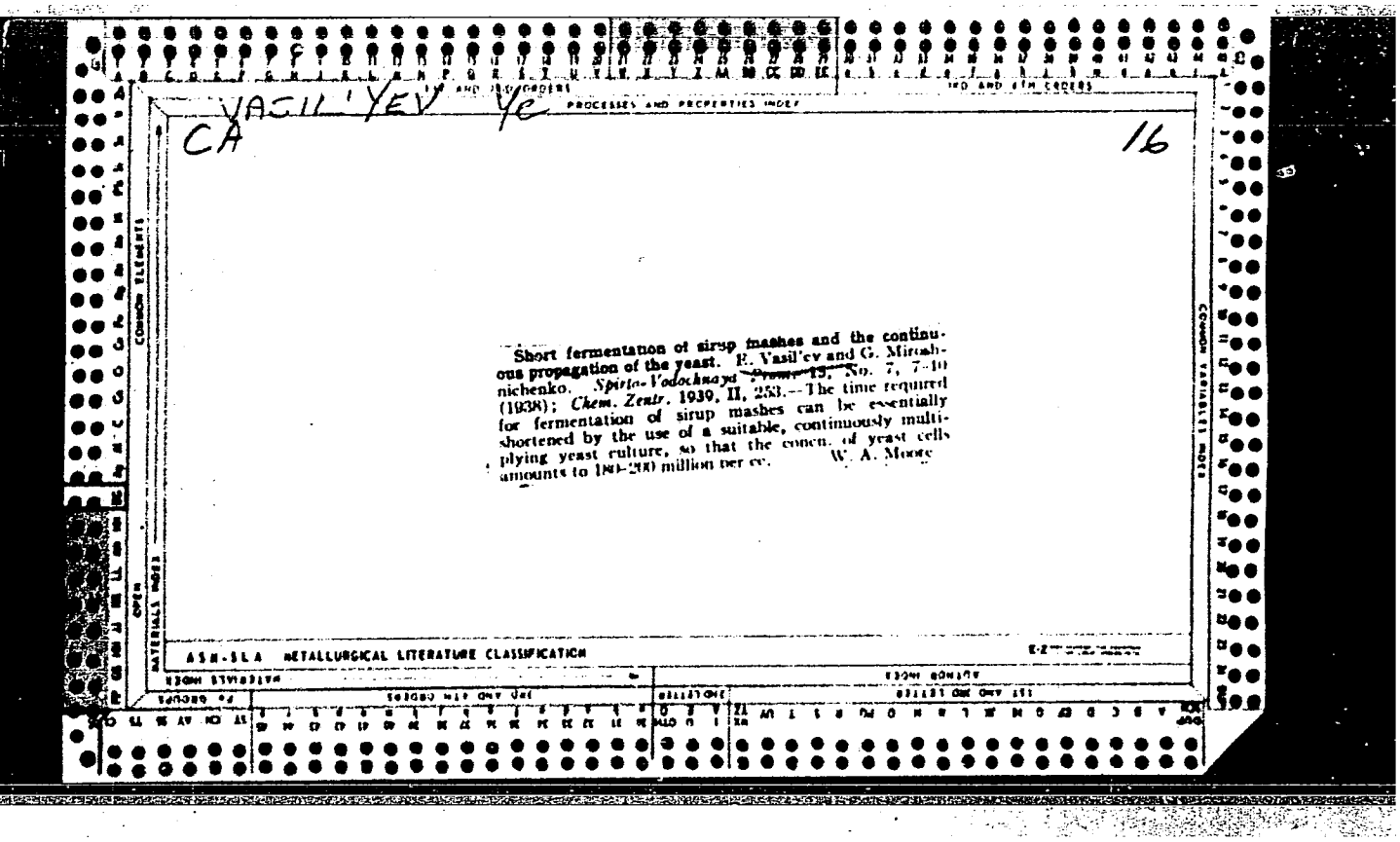
VASIL'YEV, Ye.; VAKHLAMOV, I.

Improve the economic stimulation for the creation and use of modern technology. Sots. trud 7 no.8:40-47 Ag '62. (MIRA 15:10)

(Technological innovations) (Bonus system)

KUZ'MIN, Ye., starshiy dispetcher-tekhnolog; VASIL'YEV, Ye., brigadir gruzchikov; TIMOFEYEV, A., starshiy kranovshchik; KUSLAP, A., starshiy kranovshchik; KHVOSTOVA, D.M., red.; KIRSANOVA, N.A., tekhn.red.

[New equipment in the port of Riga] Novaia tekhnika v Rizhskom portu. Izd-vo VTsSPS Profizdat, 1958. 54 p. (MIRA 12:3)
(Riga--Harbor) (Loading and unloading)

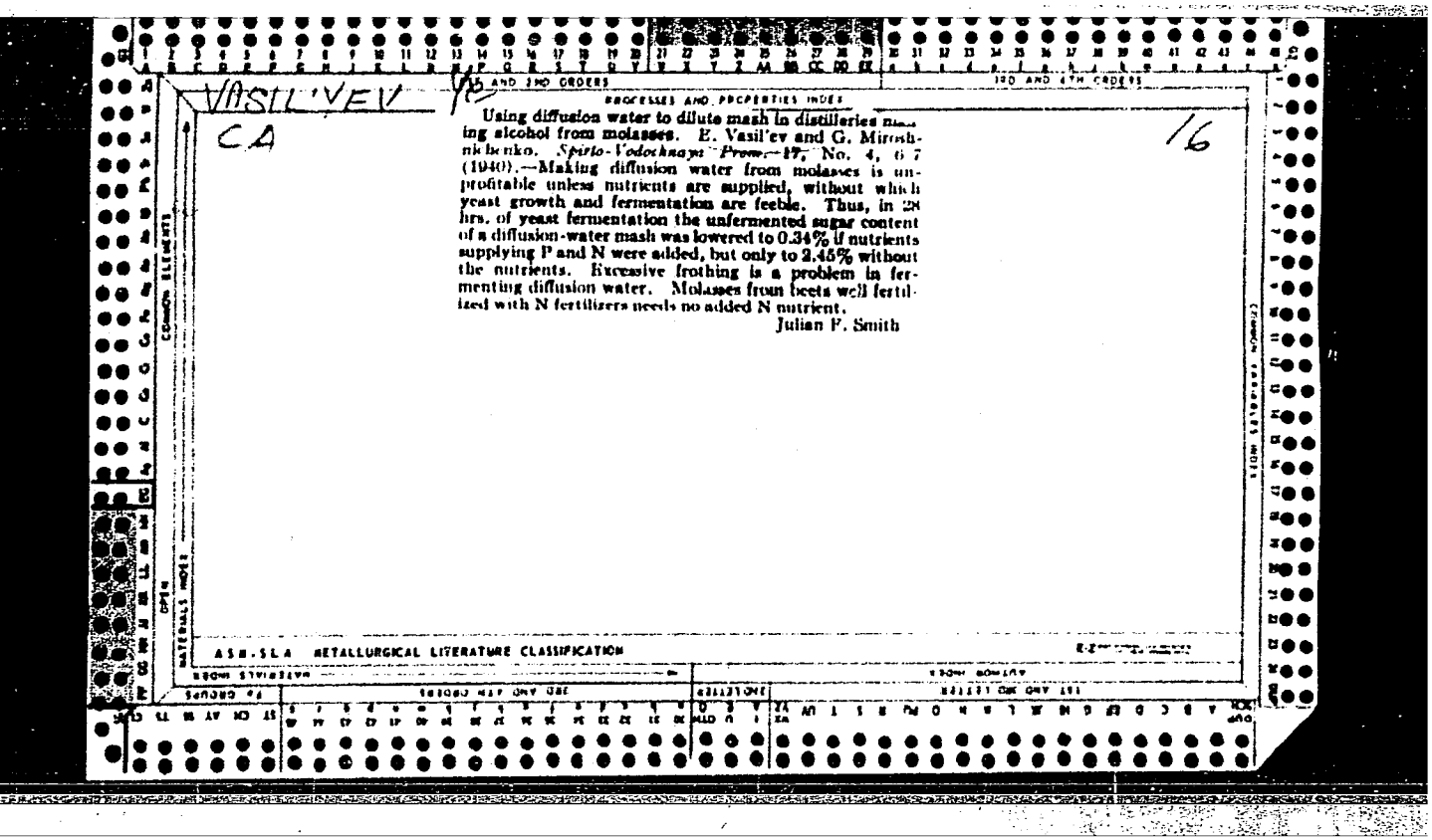


VASIL'YEV Ye

CA 16

Short fermentation of sirup mashes and the continuous propagation of the yeast. E. Vasil'ev and G. Mirashnichenko. *Spirto-Vodochnaya Prom.* 12, No. 7, 7–10 (1938); *Chem. Zentr.* 1939, II, 253.—The time required for fermentation of sirup mashes can be essentially shortened by the use of a suitable, continuously multiplying yeast culture, so that the concn. of yeast cells amounts to 180–200 million per cc. W. A. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



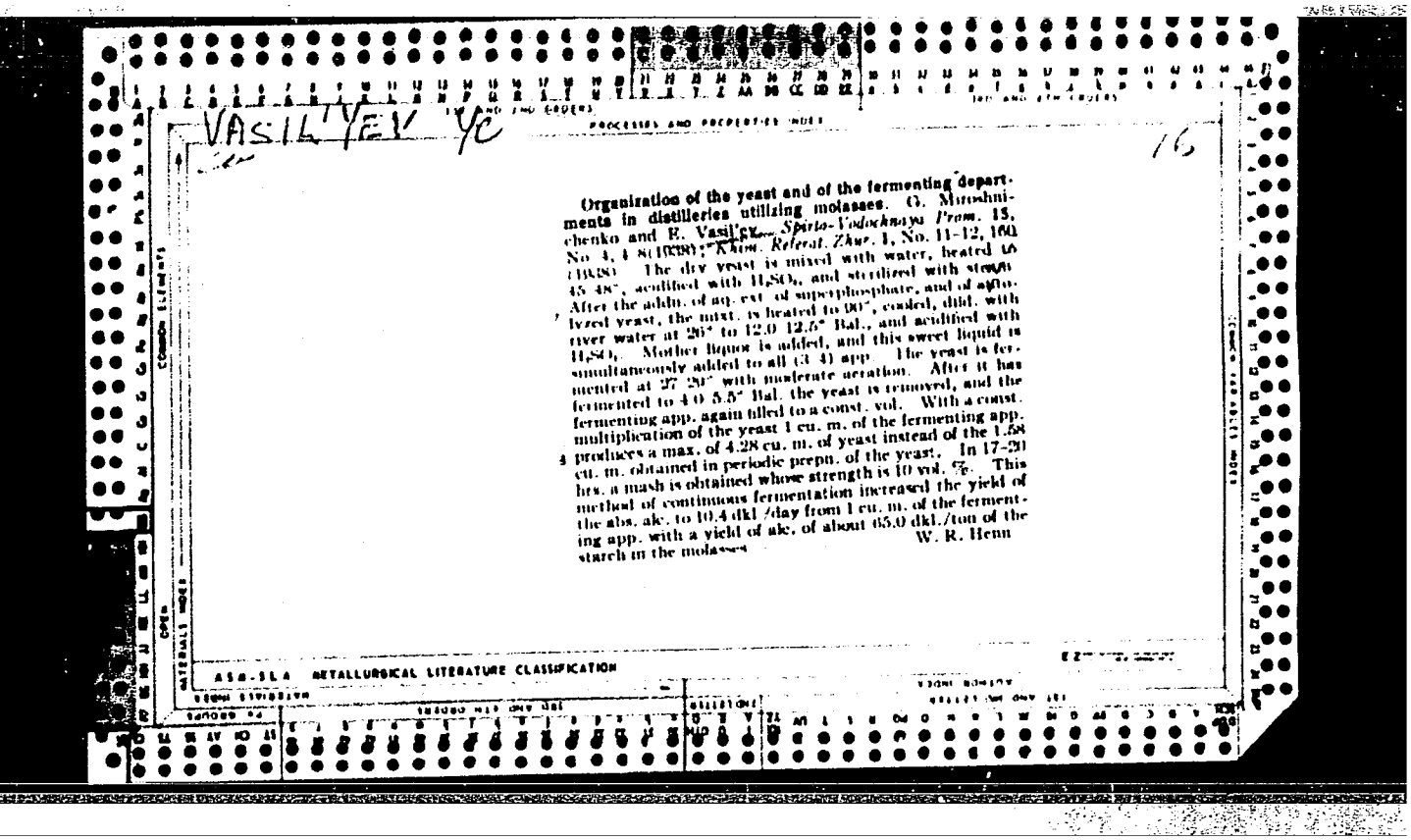
VASIL'EV
CA
16

PROCESSES AND PROPERTIES INDEX

Using diffusion water to dilute mash in distilleries making alcohol from molasses. E. Vasil'ev and G. Mirnshnichenko. *Spirto-Vodochnaya Prom.*, 17, No. 4, 6-7 (1940).—Making diffusion water from molasses is unprofitable unless nutrients are supplied, without which yeast growth and fermentation are feeble. Thus, in 28 hrs. of yeast fermentation the unfermented sugar content of a diffusion-water mash was lowered to 0.34% if nutrients supplying P and N were added, but only to 2.45% without the nutrients. Excessive frothing is a problem in fermenting diffusion water. Molasses from beets well fertilized with N fertilizers needs no added N nutrient.

Julian F. Smith

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



VASIL'YEV YC

16

Organization of the yeast and of the fermenting departments in distilleries utilizing molasses. G. Miroshnichenko and E. Vasil'ev. *Spirto-Vodochnaya Prom.* 15, No. 4, 4 8(1938); *Khim. Referat. Zhur.* 1, No. 11-12, 160 (1938). The dry yeast is mixed with water, heated to 45-48°, acidified with H_2SO_4, and sterilized with steam. After the addn. of aq. ext. of superphosphate, and of aq. ext. of yeast, the mixt. is heated to 90°, cooled, dild. with river water at 26° to 12.0-12.5° Bal., and acidified with H_2SO_4. Mother liquor is added, and this sweet liquid is simultaneously added to all (3-4) app. The yeast is fermented at 27-28° with moderate aeration. After it has fermented to 4.0-5.5° Bal. the yeast is removed, and the fermenting app. again filled to a const. vol. With a const. multiplication of the yeast 1 cu. m. of the fermenting app. produces a max. of 4.28 cu. m. of yeast instead of the 1.58 cu. m. obtained in periodic prepn. of the yeast. In 17-21 hrs. a mash is obtained whose strength is 10 vol. %. This method of continuous fermentation increased the yield of the abs. alc. to 10.4 dkl./day from 1 cu. m. of the fermenting app. with a yield of alc. of about 65.0 dkl./ton of the starch in the molasses. W. R. Henn

VASIL'YEV, Ye.; KUNEL'SKIY, L.

For careful and economical labor expenditure. Sots. trud 8 no.12:14-21 D '63. (MIRA 17:2)

SKVORTSOVA, M., kand.ekonom.nauk; VASIL'YEV, Ye.

Transportation of pulpwood logs for woodpulp combines in the Baltic States. Rech. transp. 22 no.2:9-11 F '63. (MIRA 16:5)

1. Glavnyy dispetcher Belomorsko-Onezhskogo parokhodstva (for Vasil'yev).
(Lumber—Transportation) (Baltic states--Woodpulp industry)

VASIL'YEV, Ya.

"Deeds and people of demonstration farms" by P.M.Demin. Reviewed by IA. Vasil'ev. Zemledelie 25 no.4:95 Ap '63. (MIRA 16:5)
(Collective farms) (Demin, P.M.)

VASIL'YEV, Ya.

Provincial Agronimic Conference in Kirov. Zemledelie 25 no.4: 86-87 Ap '63. (MIRA 16:5)
(Kirov Province--Agriculture--Congresses)

TYUNYAYEV, M.; IVCHENKO, N.; VASIL'YEV, Ya.; RYABOKUCHMA, S.; BRATERSKIY, F., aspirant

Use of jet engines and ventilating systems for drying corn. Muk.-elev.prom. 28 no.3:18-24 Mr '62. (MIRA 15:4)

1. Nachal'nik upravleniya khlebopriyemnykh predpriyatiy Ministerstva zagotovok Moldavskoy SSR (for Tyunyayev). 2. Zamestitel' nachal'nika Chernovitskogo upravleniya zagotovok (for Ivchenko). 3. Glavnyy inzhener Kuybyshevskogo upravleniya zagotovok (for Vasil'yev). 4. Zamestitel' direktora po kachestvu Khashchevatskogo khlebopriyemnogo predpriyatiya (for Ryabokuchma). 5. Severo-Osetinskiy sel'skokhoyaystvennyy institut (for Braterskiy).

(Corn (Maize)—Drying)

VASIL'YEV, Ya.V.; ANIYA, S.N.

Magnetic susceptibility of higher titanium oxides. Zap. AN SSSR. Mineralog. mat. 1 no.3:347-350 '57. (MIRA 10:6)

1. Leningradskiy gosudarstvennyy universitet, Khimicheskiy fakul'tet.

L 3897-66 EWT(1)/EWT(m)/EPF(c)/T/EWP(t)/EWP(b) IJP(c) JD/GG
ACCESSION NR: AP5018073 UR/0020/65/163/001/0063/0066

AUTHOR: Vaynshteyn, E. Ye.; Chirkov, V. I.; Vasil'yev, Ya. V.

TITLE: X-ray $K_{\alpha_{1,2}}$ and K_{β_1} emission lines of titanium in oxides

SOURCE: AN SSSR. Doklady, v. 163, no. 1, 1965, 63-66

TOPIC TAGS: titanium oxide, x ray emission, line width, crystal lattice structure, spectral fine structure

ABSTRACT: This is a continuation of earlier experimental investigations (DAN v. 155, no. 2, 1964 and DAN v. 157, no. 2, 1964) devoted to the fine structure of K_{β_5} emission bands of titanium in lower oxides (TiO_n) of the hexagonal ($0 < n < 0.48$) and cubic ($0.85 < n < 1.2$) structure in the region of homogeneity of these phases. In the present paper these data are supplemented with information on the energy and shape of the $K_{\alpha_{1,2}}$ and K_{β_1} emission lines in the same phases, of variable composition, and also in other oxides with $1.5 < n < 2$. The lower oxides were prepared in the same manner as before. The preparation of the other oxides is described briefly. The x-ray spectra and the fluorescence of the titanium in the oxides were determined with a DRS-2 spectrograph under conditions similar to those of the earlier experiments. The results show that for the lower oxides (up to $n = 1.20$) the energy of the maxima of the K_{α_1} and K_{α_2} lines remains constant and the same as

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in metallic titanium. The maximum of the K_{β_1} remains constant for the hexagonal oxides, but shifts in the range $0.85 < n < 1.2$ towards the longer wavelengths. The shapes (half-widths and asymmetry indices) of the $K_{\alpha_{1,2}}$ lines remain constant when $0 < n < 0.45$. The half-width of the K_{β_1} line increases linearly, and its asymmetry index has a more complicated variation. In the cubic structure oxides the parameters of all lines behave in analogous fashion, the half-width increasing linearly and the asymmetry index exhibiting nonmonotonic variation. No appreciable degree of homogeneity is observed when $1.5 < n < 2$, but the maxima of all lines shift towards the long-wave side. The results are interpreted from the point of view of the number of electrons participating in the chemical bond. This report was presented by A. P. Vinogradov. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Institut neorganicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Inorganic Chemistry, Siberian Department, Academy of Sciences, SSSR); Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 11Dec64 ENCL: 00 SUB CODE: OP, SS

NR REF SOV: 010 OTHER: 003

Card 2/2 mk

SOBOLEVA, M.S.; VASIL'YEV, Ya.V.

Enthalpy of the formation of nickel telluride $NiTe_{1.00}$ - $NiTe_{1.50}$. Vest. LGU 17 no.16:153-155 '62. (MIRA 15:9)
(Nickel telluride) (Enthalpy)

VASIL'YEV, Ya.V.; SOBOLEVA, M.S.

Calorimeter for measuring the heats of high-temperature processes. Zhur. fiz. khim. 36 no.4:907-910 Ap '62. (MIRA 15:6)

1. Leningradskiy gosudarstvennyy universitet.
(Calorimeters)

VAS[illegible]'EV, I. [illegible]rof.

Problems of housi[illegible] in the Far East. Zh[illegible] stroi. no.3:2-3 Je '[illegible]. (MIRA 14:[illegible])

1. Zamestitel' direktora Dal'nevostochnogo instituta po stroitel'stvu.
(Soviet Far East--Construction industry)

S/078/63/008/004/002/013
A059/A126

AUTHORS: Vasil'yev, Ya.V., Khrycheva, D.D., Ariya, S.M.

TITLE: Magnetic susceptibility of lower oxides of titanium

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 4, 1962, 788 - 790

TEXT: The aim of this work was to investigate the dependence of the magnetic susceptibility of the lower oxides of titanium on composition, in order to confirm the phase ratios in the low-oxygen region of the Ti — O system and to obtain experimental data on the magnetic properties of the metallic phases with the participation of the 3d elements being the object of numerous theoretical studies. The samples were annealed, first at 1,400°C for 3 h, then at 1,150°C for 15 h, and finally at 1,000°C for 10 h, and subsequenly quenched. The magnetic susceptibility of the lower titanium oxides was measured between -194 and +100°C by Faraday's method at different intensities of the magnetic field (up to 18,000 oersteds). The current intensity in the windings of the electromagnet was maintained within ± 0.05% of the given value. The forces acting on the sample in the magnetic field were measured with a quartz torsion microbalance with

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a sensitivity of $5 \cdot 10^{-7}$ g. The measured sample is kept in a cryostat described by A.S. Borovik-Romanov [Zh. eksp. i teoret. fiz., v. 29, 790 (1955)]. The absolute error of measurement was about 2 to 3%, and the relative error was about 0.5%. The magnetic susceptibility of the titanium oxides $TiO_{<1.20}$ was found to be independent of temperature. The transition from the metal to the oxide in the Ti – O system is characterized by a decrease in magnetic susceptibility. The shape of the dependence of the magnetic susceptibility on the index of the oxygen atom confirms that the upper limit of the homogeneity region of the solid solution of oxygen in titanium corresponds to $TiO_{0.50}$, while the lower limit of the homogeneity region of titanium oxide corresponds to $TiO_{0.85}$. The shape of the dependence of the magnetic susceptibility of titanium oxide on composition shows a singular point corresponding to the stoichiometric composition $TiO_{1.00}$ which fits the shape of the dependence of other properties of titanium oxide on its composition. There are 2 figures and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: August 15, 1962

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ANTUF'YEV, V.V. [deceased]; VASIL'YEV, Ya.V.; VOTINOV, M.P.; KHARITONOVA, O.K.; KHARITONOV, Ye.V.

Electron paramagnetic resonance in the system titanium-oxygen.
Fiz. tver. tela 4 no.6:1496-1499 Je '62. (MIRA 16:5)
(Paramagnetic resonance and relaxation) (Titanium oxides)

VASIL'YEV, Ya.V.; KHRYCHEVA, D.D.; ARIYA, S.M.

Magnetic susceptibility of lower titanium oxides. Zhur.neorg.khim. 8 no.4:788-790 Ap '63. (MIRA 16:3)

1. Leningradskiy gosudarstvennyy universitet.
(Titanium oxides—Magnetic properties)

S/181/63/005/004/018/047
B102/B186

AUTHORS: Vasil'yev, Ya. V., and Shcherbakova, G. A.

TITLE: Magnetic susceptibility in the system α-Fe_2O_3-α-Al_2O_3

PERIODICAL: Fizika tverdogo tela, v. 5, no. 4, 1963, 1090 - 1093

TEXT: A solid solution of α-Fe_2O_3 - α-Al_2O_3 was prepared from pure (p.a.) initial substances and subjected to X-ray phase analysis. The two-phase range was found to be between 10^{+3}_{-1} and 85±5 mole% α-Fe_2O_3. The magnetic susceptibility was measured according to the Faraday method in fields of 10-18 koe. χ was determined as a function of the composition for temperatures between 20 and 850°C with an absolute accuracy of ±3%. χ of preparations containing more than 10% Fe_2O_3 depended on the field strength and was therefore not measured. The curves $1/\chi = f(T)$ show an inflection point near room temperature; below and above this point χ satisfies the Curie-Weiss law. With increasing content of α-Al_2O_3 the Curie-Weiss constant θ tends to zero and the magnetic moment of the Fe-III ions to the magnetic moment of the free

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B102/B186

Magnetic susceptibility in the...

Fe-III ions in their ground state. The behavior of the Fe_2O_3 system on dilution agrees with results of theoretical considerations (J. Phys. Chem. Sol., 10, 19, 1959; 16, 169, 1961). There are 2 figures and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: November 4, 1962

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25(2) SOV/107-59-3-36/52

AUTHOR: Vasil'yev, Ye.

TITLE: A Turn Counter for a Winding Bench (Schetchik vitkov dlya namotochnogo stanochka)

PERIODICAL: Radio, 1959, Nr 3, p 42 (USSR)

ABSTRACT: A bicycle kilometer counter may be used as a turn counter for a winding bench. It is necessary to convert the reading of the counter according to the following formula

$$Q = a + \frac{x}{9.1}$$

whereby a - reading of the counter at the start of the coil winding
Q - reading of the counter at the end of the winding operation
x - number of turns required.

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VASIL'YEV, Ye.

New developments in paying bonuses to engineers and technicians.
Sots. trud 7 no.11:108-116 N '62. (MIRA 15:12)
(Technicians in industry) (Bonus system)